

PROCEEDINGS
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TWO NEW SPECIES AND TWO NEW RECORDS
OF THE FAMILY PARAONIDAE
(ANNELIDA, POLYCHAETA)
FROM THE NORTHEASTERN PACIFIC OCEAN

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During studies of some Paraonidae of the northeastern Pacific Ocean, two species new to science and specimens that extend the known distributions of two other species were encountered and are described below. The material has been deposited in the Allan Hancock Foundation, University of Southern California, Los Angeles (AHF); the British Columbia Provincial Museum, Victoria (BCPM); the Friday Harbor Laboratories, Friday Harbor, Washington (FHL); the National Museum of Natural History, Smithsonian Institution, Washington, D.C. (USNM); and the author's collection (KDH). I am grateful to Dr. Kristian Fauchald and to Dr. Marian H. Pettibone for the loan of material from the Allan Hancock Foundation and the National Museum of Natural History, respectively, and for helpful criticism of the manuscript.

Paraonidae

Aricidea Webster

Aricidea neosuecica Hartman

Figure 1a

Aricidea neosuecica Hartman, 1965, p. 137.—Hartman, 1969, p. 63, fig.

1.—Hartman and Fauchald, 1971, p. 96, pl. 13, figs. d-f.

Aricidea near *suecica*.—Hartman, 1957, p. 319, pl. 43, fig. 7 (part).

Aricidea jeffreysii.—Berkeley and Berkeley, 1950, p. 55, fig. 3.—Berkeley and Berkeley, 1952, p. 39, figs. 70-73. Not *Scolecopsis* (?) *Jeffreysii* McIntosh, 1879.

Material examined: Slope off Massachusetts, 39° 47' N, 70° 45' W, 1,500 meters, *Atlantis* Sta. F1, 24 May 1961, holotype (Poly 0488) and

3 paratypes (Poly 0489) of *A. neosuecica* (AHF). British Columbia, Denman Is., Snake Is., Departure Bay, Howe Sound, and Mitlenatch Is., 119–420 meters, E. and C. Berkeley, 19 specimens (USNM 40110–40113, 45468, 45469). Southern California, near Santa Catalina Island, 33° 24' N, 118° 21' W, 80 meters, *Velero* Sta. 2120, 19 June 1952, 31 specimens (AHF).

Description (British Columbia specimens): A complete specimen (USNM 40112) has about 90 setigers and is about 12 mm long. The prostomium is bluntly conical, lacks eyes, and has a short clavate antenna which extends no farther than the posterior edge of the prostomium (Fig. 3, in Berkeley and Berkeley, 1950; and pl. 13, fig. d, in Hartmann and Fauchald, 1971). Branchiae begin on setiger 4 and number 12–16 pairs, except in the smallest specimen (4 mm long, complete), which has 8 pairs of branchiae (USNM 45468). They taper gradually to a blunt tip, rather than ending in a slender filament, and do not meet middorsally. Postbranchial notopodial postsetal lobes are slender and cirriform. Capillary setae are long and flowing, the neurosetae being the longer (as long as body width). After about setiger 20, neuropodia have up to 6 unhooded, strongly bent acicular setae (Fig. 1a). Under oil immersion, fibres are visible on the convex portion of the “shoulder” of the seta. Two of the worms (USNM 40112) have about 4 eggs (280 μ m diameter) per segment in the postbranchial region.

Remarks: Much of the description of *Aricidea* near *suecica* (Hartman, 1957) was based on the collection from station 2120, which includes at least three species of *Aricidea*: *A. pseudoarticulata* new species, *A. wassi* (see below), and *A. neosuecica*. This accounts for the described variability in the length of the antenna and in the number and shape of the branchiae. The specimens of *A. neosuecica* from station 2120 have a clavate antenna not extending beyond the posterior edge of the prostomium and 11–15 pairs of branchiae tapering gradually to a blunt tip. Massachusetts specimens may be distinguished from specimens from British Columbia and California only by their usually smaller size (about 5–7 mm long) and fewer pairs of branchiae (3–7).

Distribution: British Columbia (new record), southern California, and off New England. In 16–4,749 meters.

***Aricidea pseudoarticulata* new species**

Figure 1b–h

Aricidea near *suecica*.—Hartman, 1957, p. 319 (part).

Type-material: Southern California, near Santa Catalina Island, 33° 24' N, 118° 21' W, 80 meters, *Velero* Sta. 2120, 19 June 1952—holotype (Poly 0511) and 11 paratypes (Poly 0512) (AHF); 2 paratypes (USNM 48062).

Description: The specimens are about 0.35 mm wide. None is complete, but an average specimen is about 10 mm long for about 80 setigers. Body cylindrical, becoming broader and somewhat flattened in the

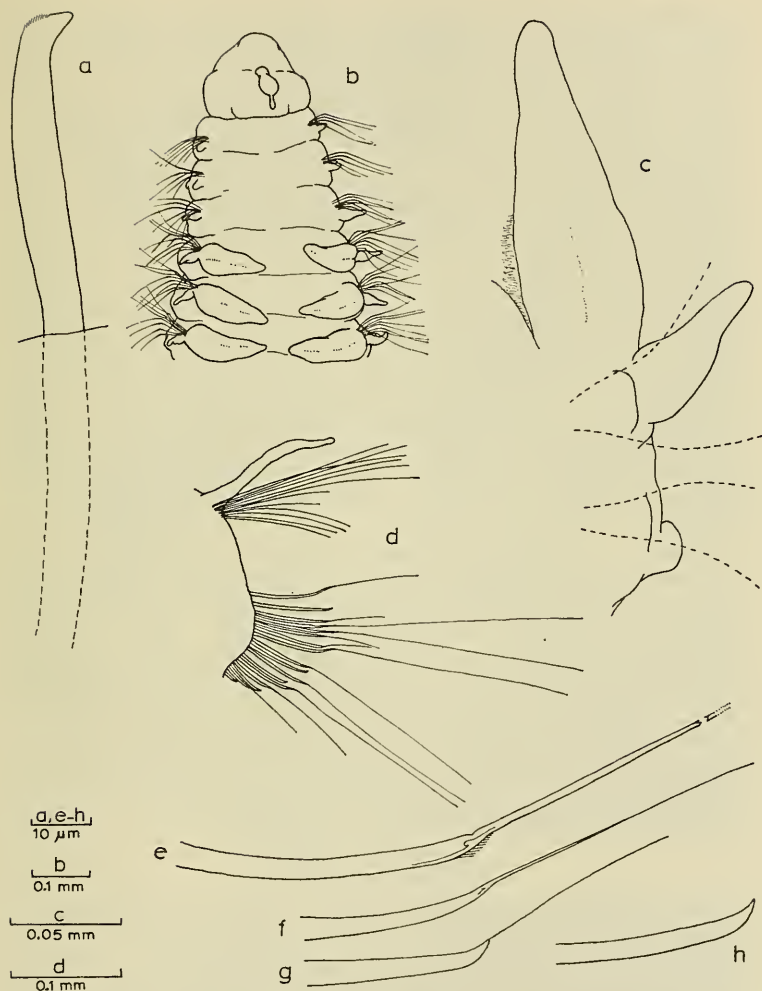


FIG. 1. a, Acicular seta from median neuropodium, *Aricidea neosuecica* (USNM 40112). b-h, *A. pseudoarticulata* new species; b, holotype (AHF); c-h, paratypes (AHF). b, Dorsal view of anterior end. c, Anterior view of parapodium 5, position of setae indicated by dashed lines. d, Anterior view of posterior parapodium. e-h, Neurosetae of posterior parapodium.

branchial region. The prostomium is triangular, without eyes (Fig. 1b). The median antenna is inserted in the centre of the prostomium, being clavate with a terminal papilla ("bottle-shaped") and extending to the posterior edge of the prostomium or the middle of setiger 1. Branchiae begin on setiger 4 and number 11–13 pairs. They taper gradually to blunt tips and meet middorsally only in the posterior branchial region. Notopodial postsetal lobes are short on setiger 1; becoming longer, broad at base with slender tip in the branchial region (Fig. 1c); and longer, cirriform in the postbranchial region (Fig. 1d). Low, truncate neuropodial postsetal lobes are present from setiger 1 through the end of the branchial region (Fig. 1c). All notosetae are capillaries. Anterior neurosetae are capillaries, but at setiger 28–35, the ventralmost neurosetae appear abruptly tapered; after about the next 5 setigers, all neurosetae appear either abruptly tapered, bent, or hooked (Fig. 1d). These neurosetae may be: (1) pseudoarticulate with a long appendage 2–4 times the length of the shaft, with fine hairs on the convex portion of the "shoulder" (sometimes are bent or broken at this region) (Fig. 1e); (2) abruptly tapered to hairlike tip (Fig. 1f); (3) weakly hooked, with hairlike tip (Fig. 1g); and (4) weakly hooked, without hairlike tip (Fig. 1h).

Remarks: *Aricidea pseudoarticulata* resembles *A. fragilis* Webster and *A. annae* Laubier in having similar "pseudoarticulate" neurosetae. *Aricidea pseudoarticulata* may be distinguished by the shape of the median antenna and the shorter neuropodial postsetal lobes. Both *A. pseudoarticulata* and *A. annae* have several types of median and posterior neurosetae, but they differ in form (Laubier, 1967). *Aricidea fragilis* possesses only pseudoarticulate median and posterior neurosetae, and has many (50–60) pairs of branchiae (Hartman, 1957; Pettibone, 1965).

Etymology: The specific name refers to the pseudoarticulate neurosetae.

Distribution: Southern California. In 80 meters.

Aricidea wassi Pettibone

Aricidea (*Aricidea*) *wassi* Pettibone, 1965, p. 135, figs. 9–11.—Hobson, 1971, p. 247.

Aricidea near *suecica*.—Hartman, 1957, p. 319 (part).

Material examined: Southern California, near Santa Catalina Island, 33° 24' N, 118° 21' W, 80 meters, *Velero* Sta. 2120, 19 June 1952, 9 specimens (AHF); Massachusetts, Cape Cod Bay, 41° 48.5' N, 70° 08' W, 10 meters, Sta. 2012, 11 December 1968, 3 specimens (USNM 43518).

Description (California specimens): The worms are small, about 0.3 mm wide, whitish as preserved, and are incomplete posteriorly. The characteristic long, jointed median antenna extends to setiger 2 or 3. There are 7–9 pairs of branchiae, beginning on setiger 4. The lower neurosetae of median and posterior segments are curved and acicular, with a subterminal hairlike appendage arising from the concave side.

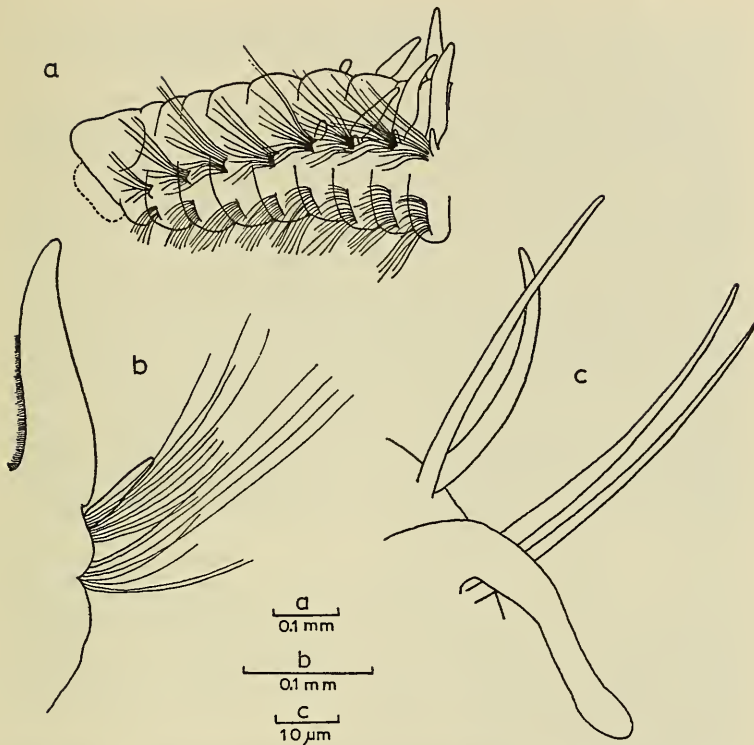


FIG. 2. *Paraonis spinifera* new species; a and c, holotype (USNM 48060); b, paratype (USNM 48061). a, Dorsolateral view of anterior end, setae of right side omitted. b, Anterior view of parapodium 13. c, Posterior view of far posterior notopodium.

Remarks: The California specimens differ from those described by Pettibone (1965) from Virginia only by their smaller size, a slightly shorter antenna (extending to setiger 2-3, rather than 3-5), and fewer pairs of branchiae (7-9, rather than 9-18).

Distribution: Southern California (new record), Massachusetts, and Virginia. In 10-80 meters.

Paraonis Grube

***Paraonis spinifera* new species**

Figure 2a-c

Type-material: Washington, San Juan Islands; H. L. Sanders, Harney Pass, 27 meters, mud, July 1967, holotype (USNM 48060) and 18 para-

types (USNM 48061), 3 paratypes (BCPM), 3 paratypes (FHL), 1 paratype (KDH). West Sound, 40 meters, mud, July 1967, 1 paratype (Poly 0510) (AHF).

Description: The specimens are up to 0.3 mm wide, and 6 mm long; a small complete specimen has about 72 setigers. The body is cylindrical, becoming somewhat flattened, but not noticeably wider in the branchial region. The prostomium is triangular, without eyes and distinct from the peristomium (Fig. 2a). An eversible papillated proboscis is present. Branchiae begin on setiger 5 or 6 and number 12–20 pairs. The first and the last 1 or 2 pairs are small, the remaining pairs are slender and taper gradually (Fig. 2b). Notopodial postsetal lobes are small and cirriform throughout the branchial and postbranchial regions, becoming longer in far posterior segments. All setae are capillaries, except for some median and posterior notosetae. Median notopodia have a single slender spinelike notoseta. Far posterior notopodia have 1 (rarely 0) to 4 capillary notosetae and 2 to 4 spinelike notosetae, the uppermost spine sometimes being thick and strongly curved (Fig. 2c). The pygidium is typical for the family, with 3 subequal cirri, the ventral one being shorter and conical. Coloration in alcohol is pale peach, with reddish brown pigment variable in amount and distribution.

Remarks: *Paraonis spinifera* would not be a *Paraonis* species in the strict sense because the “modified setae” are notopodial rather than neuropodial. However, Jones (1968) offers some compelling reasons for dropping the use of the paraonid subgenera or genera that are based on the occurrence of “modified setae.” *Paraonis spinifera* resembles *P. armata* (Glémarec, 1966) in having spinelike notosetae. However, the latter species also has furcate notosetae.

Etymology: The specific name refers to the spinelike median and posterior notosetae.

Distribution: Washington. In 27–40 meters.

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